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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,723	12/06/2001	Mark G. Allen	BVTP-P04-506	4309
7590 03/09/2004				
AGNES S. LEE ROPES & GRAY ONE INTERNATIONAL PLACE BOSTON, MA 02110-2624			EXAMINER THOMPSON, KATHRYN L	
			ART UNIT 3763	PAPER NUMBER 17
DATE MAILED: 03/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/010,723

Applicant(s)

ALLEN ET AL.

Examiner

Kathryn L Thompson

Art Unit

3763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 49-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 49-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 49, 54-66, 70, and 71 are rejected under 35 U.S.C. 102(e) as being anticipated by Eicher et al (US 6,132,755). Eicher et al teach a device comprising one or more microneedles having at least one substantially annular channel therethrough and having a length between about 1 $\mu$ m and 1mm and a diameter between about 1 $\mu$ m and 100 $\mu$ m and a substrate to which the one or more microneedles is attached (Figure 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eicher et al. Eicher et al does not disclose expressly that the diameter of the one or more microneedles is between about 10  $\mu\text{m}$  and 30  $\mu\text{m}$ , 20  $\mu\text{m}$  and 50  $\mu\text{m}$ , 30  $\mu\text{m}$  and 100  $\mu\text{m}$ , and wherein the diameter of the substantially annular channel is between about 3  $\mu\text{m}$  and 80  $\mu\text{m}$ . At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to make the measurements of the aforementioned diameters because Applicant has not disclosed that making microneedles with these specific measurements provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well.

Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eicher et al in view of Gerstel et al (US 3,964,482). Eicher et al teaches all of the claimed limitations except the one or more microneedles including a non-biodegradable polymer selected from polycarbonate, polymethacrylic acidm ethylenevinyl acetate, polytetrafluorethylene, and polyesters. Gerstel et al teach the one or more microneedles including a non-biodegradable polymer selected from polycarbonate, polymethacrylic acidm ethylenevinyl acetate, polytetrafluorethylene, and

Art Unit: 3763

polyesters. It would have been obvious to one with ordinary skill in the art to use the teachings of Gerstel et al to modify the invention of Eicher et al and include non-biodegradable polymers as a material that the microneedles can be made of since non-biodegradable polymers are notoriously well known in the art as possible materials from which medical devices can be fabricated.

Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eicher et al in view of Godshall et al (US 5,879,326). Eicher et al teaches all of the claimed limitations except wherein the one or more microneedles are formed by a micromachining technique. Godshall et al teach wherein the one or more microneedles are formed by a micromachining technique (Column 3, Lines 44-48). It would have been obvious to one with ordinary skill in the art to use the teachings of Godshall et al to modify the invention of Eicher et al to include that the microneedles are formed by a micromachining technique since micromachining is notoriously well known in the art as a method of fabrication for microneedles.

Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eicher et al in view of Godshall et al. Eicher et al discloses all of the claimed limitations except a transport control mechanism for generating an ultrasonic force gradient for causing the material to move across a biological barrier. Godshall et al does disclose a transport control mechanism for generating an ultrasonic force gradient for causing the material to move across a biological barrier (Column 2, Lines 7-16). It would have been obvious to one with ordinary skill in the art to use the teachings of Godshall et al to modify the invention of Eicher et al since according to Godshall et al the use of a transport control

Art Unit: 3763

mechanism that generates an ultrasonic force gradient is used to increase the migration of the drug across the skin barrier and improve absorption.

### ***Response to Arguments***

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathryn L Thompson whose telephone number is 703-

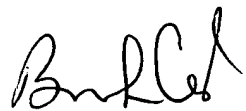
Art Unit: 3763

305-3286. The examiner can normally be reached on 8:30 AM - 6:00 PM: 1st Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 703-308-3552. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

KLT



**BRIAN L. CASLER**  
**SUPERVISORY PATENT EXAMINER**  
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